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TO: Joseph Leiper

November 5, 1958
(Revision of Memo of 10/15/58)

FROM: Allan K. Sloan

Subject: Structural Concept of The New York Metropolitan Region (Ring Memo)

The purpose of this memorandum is to define for discussion purposes a structural concept of the New York Metropolitan Region in order to:

a. Analyze the present status of the region with a view to outlining the principle urban environmental problems and their inter-relationships.

b. Serve as a framework for outlining the major policy decisions that are needed for developing a tranportation plan and other aspects of a master plan.

The structural concept presented here is tentative and will be further reviewed and refined. It is generally based on preliminary analysis of data that have been collected for various transportation purposes. The region has been divided fairly arbitrarily into 5 areas, the Manhattan Central Business District and four generally concentric rings surrounding the CBD. These rings are described as the inner urban, the outer urban, the suburban, and the exurban rings. The basis for dividing the region into these rings is subject to refinement - the inner and outer urban rings are generally the inner and outer portions of Manhattan (minus the CBD) The Bronx, Queens and Brooklyn grouped together by revised statistical districts. Hudson County in New Jersey is included as part of the inner urban ring. The suburban and exurban rings are groups of counties which in many cases are too large and too diversified for anything but preliminary gross analysis.

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In this memorandum, the data presented merely summarize existing patterns and projected trends. The ring analysis in no way reflects what values or developmental policies could or should be enacted, but it is hoped that it will serve as a framework for developing these values and policies.

The table below summarizes the population trends in the rings from 1950 and 1955 and the latest projections to 1975 (both RPA and CPC data).

N E W Y O R K R E G I O N A L P O P U L A T I O N

	(sq. mile)	1950	1955-6	Change 1950-55	1975	Change 1955-75
		(i n	t h o u s a n d s)			
CBD	9	636	612	- 24	571	- 41
Inner Urban	110	4,707	4,562	- 245	4,435	- 127
Outer Urban	187	3,003	3,326	+ 323	3,804	+ 478
Suburban	1,600	3,757	4,450	+ 693	6,265	+ 1,815
Exurban	5,000	1,842	2,290	+ 448	4,150	+ 1,860
Total	6,906	13,945	15,240	1,195	19,225	3,985

I. Description of the Rings

A. The CBD (Manhattan below 60th Street) - 9 square miles.

This is the work location of over 2,200,000 employees or about 37 percent of the total regional labor force. It is the region's center - the hub of the rail transportation network and the focus of the major physical problems in all forms of transportation. There is only limited information on current CBD employment levels and

trends, but it is clear that the function of the CBD as an employment center is changing - over-all employment appears to be declining slightly while white collar employment is increasing and manufacturing employment is declining sharply. The CBD has a resident population of about 600,000 or 4 percent of the region's total population at present. In the future many of the residential areas and the old loft areas presently housing the declining manufacturing activities will be suitable for extensive rebuilding. About 70 percent of housing was over 40 years old in 1950.

White collar employment has been growing in two highly concentrated core areas - Wall Street and East Midtown. The future of the CBD - in particular, the future of these white collar centers and the large declining areas in between - is the key to the development of a planning policy for transportation, especially rail transportation in the metropolitan region.

B. The Inner Urban Ring (Upper Manhattan, West Bronx, Astoria and Long Island City, Northern and Eastern Brooklyn, and Hudson County in New Jersey) - 110 square miles - 65 square miles in New York City.

This is the older, high density, low-income part of the region - declining in population and in quality of residential environment. It contains 30 percent of the regional population and most of its racial minority populace. The housing here is generally old and approaching obsolescence - with pockets of relatively high quality, high density housing. Close to two-thirds of the existing housing is over 40 years old and about one-quarter is between 30 and 40 years old. The serious encroachment of non-residential land uses, and the continuing function of this area as a melting pot for the

migrating, low-income minority groups have also contributed to its decline. Residential redevelopment and urban renewal programs have been concentrated mostly in this ring, but as yet they have been able to make only a small improvement in the overall urban environment of this area. Over 1,000,000 people or 16 percent of the regional labor force work in this ring in which is concentrated much of the waterfront and heavy industrial activities of the region. The median family income in the inner ring was about $3,250, in 1950 and the net residential density is about 372 persons per acre in the New York City portion of this ring.

C. The Outer Urban Ring (Riverdale, East Bronx, Outer Queens, Outer Brooklyn) 187 square miles.

This is the part of New York City that has been growing rapidly since the war. It has had about a 10 percent increase in population between 1950 and 1956 and at present contains about 22 percent of the total regional population. It is estimated that about 500,000 people work in this area or about 8 percent of the region's labor force. The median family income for this ring was about $4,200 in 1950, substantially higher than that of the inner ring, and the net residential density is about 110 persons per acre. About 25 percent of the housing existing in 1950 was 40 years old and over. This ring is increasingly becoming the middle class residential refuge within the city where the great bulk of the city's residential development is expected in the future.

D. The Suburban Ring (Nassau, Westchester Counties East of Hudson; Rockland, Bergen, Passaic, Essex, Union and Richmond West of the Hudson) - 1,600 square miles.

This vast area has been absorbing over half of the region's population increase since the war. In the period from 1950 to 1955 it increased in population by nearly 20 percent and now contains about 30 percent of the total population of the region. Employment in this area has also increased substantially - by 18 percent since 1950 - and it now contains about 24 percent of all regional employment. It is this area that has become the symbol of the good family life in America. It is considered to represent the best in living environment for a large and growing portion of the region's population. It is expected to increase substantially in population in the future.

E. The Exurban Ring (Suffolk, Fairfield, Putnam,Dutchess, Orange, Morris, Somerset, Middlesex and Monmouth Counties) - 5,000 square miles.

This ring includes all the counties on the fringe of the metropolitan region. More careful analysis, however, would probably exclude the outer portion of a number of these counties from the "metropolitan region." This ring at present contains about 15 percent of the region's population, but since 1950 it has had the fastest rate of growth of any of the 4 rings. It has increased in population almost 25 percent since 1950 and by 1975 it is expected to increase by nearly 80 percent. Close to 12 percent of the region's labor force presently works in this ring. Estimates of future population indicate that this area will almost double in size by 1975.

PERCENTAGE DISTRIBUTION OF REGIONAL POPULATION

	1950	1955	1975
CBD	5	4	3
Inner Urban	34	30	23
Outer Urban	21	22	20
Suburban	27	29	32
Exurban	13	15	22
	100	100	100

II. Transportation Factors in the Metropolitan Region

The spread of the region over a larger and larger area in the past 30 years has been both a cause and an effect of the transportation revolution that has come about during the same period. The lower density pattern of living and the decreasing dominance of the CBD as the major regional employment location has both resulted from, and has stimulated, the remarkable rise of the automobile as a major form of urban transportation. In the days before the automobile, the city was a relatively compact, dense collection of homes and places of work tied together by an extensive network of railroads and rapid transit lines. The urbanized part of the region was concentrated in the center (Manhattan) and radially along subway and rail routes. Since about 1930 a new pattern has been superimposed on the old - that of the city spreading out from the rail-oriented center into areas which are basically accessible only by rubber wheeled transportation. At present,

we are in a situation where the two patterns exist together. The automobile-oriented pattern has gained at the expense of the older railroad-oriented pattern, but the latter has not been replaced.

A glance at certain transportation data in terms of the rings will indicate the inter-relationship of these two patterns. The inner urban ring of the City, excluding Hudson County, is still very strongly oriented toward rail travel. Over 40 percent of the resident labor force of this ring uses the rapid transit system during the peak travel hours (7 to 10 A.M.). In the outer urban ring about one-third of the labor force are rail travellers during the journey-to-work hours; in the suburban ring, about 9 percent; and in the exurban ring, only 4 percent. On the other hand, the number of registered automobiles per capita shows a reverse pattern. In the inner urban ring there is one car for every 7.7 persons at present; in the outer urban ring, one per 4.6 persons; in the suburban ring, one per 3.0 persons; and in the exurban ring, one per 2.8 persons. While we have only limited information on automobile usage in the rings, particularly during the journey-to-work hours, it is quite apparent that in areas of high automobile ownership, a very large portion of work travel is by automobile. Thus, as might be expected, rail travel has continued to dominate in the older and declining inner urban ring, while automobile travel has been increasingly dominant in the outer urban, suburban, and exurban rings.

The key to an understanding of the developing regional travel patterns lies in a knowledge of what has been happening over the past years in terms of rail and automobile usage. It is well known that the rails have lost a great deal of traffic since the rise of the automobile, but more significant is where and when this traffic has been lost. On the New York City subway system between 1948 and 1956, for example, the number of passengers carried

on weekend and holidays has declined by half; passengers during the weekday non-peak hours have also declined about 50 percent, and during the journey-to-work hours in locations other than the CBD, by one-third. The number of passengers during the journey-to-work hours to, from and within the CBD, however, has declined by only 12 percent. Similarly, weekday railroad passengers crossing the Hudson River from New Jersey to New York bound for the CBD in the peak periods declined by about 38 percent between 1924 and 1955, but the number of passengers bound for the CBD in the non-peak hours has declined by 62 percent, and those bound for locations other than the CBD in peak hours, by 88 percent.

Thus it is apparent that the bulk of rail passenger losses have been non-CBD and non-peak period trips. The rails are being reduced to essentially a single function - that of moving people during the journey-to-work hours into and out of the Manhattan CBD. At least 70 percent of all the people working in the CBD come and go by rail, while in the two urban rings of the City only about one quarter of the local work travel is by rail. In the suburban and exurban rings local rail travel is negligible except to and from Newark.

The future of the Manhattan CBD is the key to major transportation planning, particularly from the point of view of major systems of highway and rail facilities. The basic demands for facilities to handle concentrated travel volumes will be established largely by the extent to which the CBD continues to be the employment center of the region. As of 1955, over 40 percent of the labor force of that portion of the inner ring within the City commuted (by all modes of travel) to work in the CBD. For Hudson County, however, this figure was only 8 percent. Over 30 percent of the labor force of the outer urban ring commuted to the CBD, while under 15 percent of the suburban labor force

and only 4 percent of the exurban ring's labor force commuted to the CBD.

The pattern at residential origin of rail trips has changed dramatically in the last 5-6 years. In the inner urban ring, the most rail-oriented of the 4 rings, the number of peak period rail travellers has declined by over 20 percent, while in the outer urban ring, this decline has been somewhat less than 10 percent. (Actually the outer urban ring decline consists of a 9 percent decline in The Bronx sector, a 20 percent decline in the Brooklyn sector, and a 9 percent increase in the Queens sector - the only area of the region which has actually increased its rail patronage in the last 5 to 6 years.) The suburban and exurban rings have had altogether a 10 percent decline in rail passengers, but all of this decline has been in the New Jersey sector of this ring. Westchester and Long Island sector rail traffic has remained stable during this period.* Thus the rail declines have been less in the rings where the automobile has supposedly become dominant.

In terms of the total picture of rail usage, however, the most significant trend is the change in the percentage of the labor force that has been using rails during the peak travel hours in the 5 to 6 years. In the inner urban ring the number of peak period rail riders as a percentage of the labor force has declined during this period from 46 percent to 37 percent. In the outer urban ring, there has been a decline from 43 percent to 35 percent, in the suburban ring a decline from 11 percent to 9 percent, and in the exurban ring this percentage has remained stable at about 4 percent.

III. The Present Status of the Region - its problems and areas for policy decisions.

The previous discussion has outlined basically the existing structure of the region insofar as current information is available. From this we get a

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* Total commutation into New York City from Nassau and Westchester by all travel modes has increased by about 25 percent.

picture of an expanding urban area, growing dramatically in population and employment in the outlying, low density, higher income suburbs where the autmobile is the principal means of transportation. The analysis and projection of population and other trends, however, indicate that if present trends continue, there will be no major structural changes in the presently developed portions of the metropolitan region. While substantial population increases are projected in the exurban and the suburban rings, the City portion of the inner urban ring is expected to decrease by only about 3 percent and the outer urban ring is expected to continue to grow slightly.

Thus, if the trends continue, we shall still have a major employment and cultural center in the CBD, and about 4 million people will still be living in the old, congested, high density inner urban area which is generally deteriorating in quality. More people will be crowding into the lower density urban ring of the City where there will be an increasing need for more community facilities and services. Population will continue to sprawl out over the suburban and exurban landscape at low densities, with the automobile the dominant transportation element..

Given this pattern, a plan for future transportation facilities and services can be developed. Such a plan, however, would be devoid of any value judgments or policies as to the desirability of this kind of urban region as a good place in which to live and work. For the purposes of developing the transportation segment of a comprehensive master plan, the following are some of the key problems that need solution and some of the important questions that must be answered.

A. <u>The Central Business District</u>

1. Growing traffic and subway congestion in the high density core areas - decentralize or provide more transportation facilities and services? How much and what kind of services, if any?

2. Decline in use and physical condition of loft building and waterfront areas - redevelop for manufacturing, commercial, or residential? Which major emphasis? How much of each?

3. Decline in quality of many residential areas - mixed uses and poor housing - redevelop for private, high and medium income housing linked to the office cores, or for low income housing linked to subway system to give best cheap transportation access and encourage reverse commuting to manufacturing areas outside CBD? Which emphasis? How much of each?

B. The Inner Urban Ring (the grey area)

1. Declining old, high density, crowded residential areas - reduce total population and residential densities or continue high density redevelopment?

2. Increasing its role as low income ghettos for minority groups - major emphasis on public housing to improve environment or on redevelopment and renewal programs for better middle income balance?

3. Excessive commercial sprawl and mixed manufacturing uses blighting residential areas - regroup and reduce these uses, or expand non-residential uses at expense of residential?

4. Excessive non-residential truck traffic blighting residential areas - accommodate by building new highway facilities or reduce the generating land uses?

5. Excessive auto traffic in residential areas - by-pass traffic by more expressways or hold down automobile usage by better transit?

C. The Outer Urban Ring and Suburban Ring

1. Growing, low density residential sprawl outrunning public and community facilities and services - attempt to inject more higher density development in key centers or develop more highways to serve the sprawl?

2. Growing employment - attempt to centralize employment locations and serve by public transportation or scatter locations and serve by automobile?

3. Growing labor force commuting to CBD in some areas - encourage or discourage? Serve by rail extensions or highway or combination of both?

4. Rapid depletion of reserves of undeveloped land - permit continued low density development or save areas for recreation? How much and where?

D. The Exurban Ring

1. Projected growth as extension of suburban ring - try to hold sprawl or encourage through greater highway development?

2. Relatively minor ties to the center of the region, particularly rail - try to improve these ties? Through rail or highway facilities? Or encourage high degree of self sufficiency in terms of employment, facilities, etc.

3. Potential loss of much valuable recreation land through development.

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